

THREE SPECIES OF *LEUCOPIS* MEIGEN (DIPTERA: CHAMAEMYIIDAE) NEW TO BRITAIN

By Dr. I. F. G. McLEAN*

The Chamaemyiidae is a family of acalyptrate Diptera with 25 species recorded from Britain (Kloet and Hinks, 1976), whose known larvae are predators of Homoptera. Typically, the adults are small (less than 4 mm long) with distinctive silver-grey dusted bodies, and many species have paired black spots on the abdominal tergites. The adults may be collected by sweeping plants infested with their larval prey, or by rearing from larvae found in association with aphids, adelgids or scale insects (McLean, 1978). Keys to the British species are given by Smith (1963) and Collin (1966). Recent collecting by the author and examination of museum collections has resulted in the discovery of additional species in the genus *Leucopis* Meigen, three of which are dealt with here. Revised keys are not given at this time pending the addition of further species, but consulting the references cited will enable these three species to be identified with the exception of *Leucopis geniculata*, for which distinguishing characters are given in the text.

Leucopis (Leucopis) argenticollis Zetterstedt. The identity of this species has been established by McAlpine and Tanasijtshuk (1972), who give a detailed description with figures of both sexes. They record the larvae as being predators of Adelgidae (Conifer Woolly Aphids), especially of *Pineus* species on Pines.

MATERIAL EXAMINED: SUFFOLK, Wangford Warren (SNT reserve) 20. VIII. 1977, 1 ♀ swept from *Pinus sylvestris* L. leg. I. F. G. McLean (lacks antennae).

Leucopis geniculata Zetterstedt. I am indebted to Dr. J. F. McAlpine (Ottawa) for kindly identifying a British pair (from East Wretham) of this species, and for giving me a copy of his notes on the holotype female in the Zetterstedt collection, University Zoological Museum, Lund, Sweden, which he made in April 1966. This species may be separated from other British *Leucopis* which possess a pair of strong pre-scutellar acrostichals by the broad frons (about half total head width) and usually by the presence of 4-6 outstanding postsutural dorsocentral bristles. *Leucopis (Lipoleucopis) praecox* de Meijere also has these characters, but in this species the costa ends at vein $R_4 + 5$ while in *L. geniculata* it continues to vein $M_1 + 2$. *L. geniculata* also lacks a proscutellum (see McAlpine, 1960) and all these similarities, together with similarities in the structure of the male genitalia seem to indicate a close relationship to *L. praecox*. However, the subgeneric position of *L. geniculata* has not yet been definitely established. It is probably a larval predator of Adelgidae as adults have been swept from foliage of *Pinus sylvestris* infested with *Pineus pini* Macquart.

*Nature Conservancy Council, 19-20 Belgrave Square, London SW1X 8PY.

MATERIAL EXAMINED: ABERDEENSHIRE, Glen Tanar 31.V.1980, 5 ♀ swept from *Pinus sylvestris* leg. I. F. G. McLean; DUMBARTONSHIRE, Bonhill ? date 31.III.1906, 1 ♀ leg. J. R. Malloch, in RSM; NORFOLK, University of East Anglia, Norwich 1.VI.1977, 3 ♀ ; Kilverston, Thetford 17.V.1978, 2 ♀ ; East Wretham (NNT reserve) 20.V.1978, 7 ♂ and 13 ♀ ; 28.V.1978 4 ♀ , all swept from *Pinus sylvestris* and leg. I. F. G. McLean; SUFFOLK, Barton Mills 11.V.1938, 1 ♂ ; 17.V.1938, 1 ♀ ; 15.IV.1961, 1 ♂ ; Worlington 12.V.1944, 1 ♂ ; 9.IV.1945, 4 ♂ (1 lacks head) and 2 ♀ ; 29.IV.1947, 2 ♀ ; 7.V.1947, 2 ♀ ; 29.IV.1949, 1 ♂ , all leg. J. E. Collin, in HEC; Tuddenham NNR 17.V.1978, 6 ♀ swept from *Pinus sylvestris* leg. I. F. G. McLean; Lakenheath Warren 25.V.1980, swept from *Pinus sylvestris* 3 ♀ leg. I. F. G. McLean and 1 ♀ leg. P. J. Chandler; SURREY, Oxshott Heath 4.VI.1977, 1 ♀ swept from *Pinus sylvestris* leg. I. F. G. McLean.

Leucopis (Neoleucopis) orbiseta McAlpine. This species was described by Dr. McAlpine, in his 1971 world revision of the subgenus *Neoleucopis*, from six specimens from Finland, and he has kindly confirmed the identity of two males and one female from Britain (East Wretham). Like the two species discussed above, *L. orbiseta* would appear to be a larval predator of Adelgidae. It is not clear whether the pair from Cheshire collected by Britten were reared from *Pineus strobi* Hartig, or if they were collected as adults from trees infested with this woolly aphid (there are no puparia preserved with the specimens).

MATERIAL EXAMINED: CHESHIRE, Delamere 28.VIII.1924, 1 ♀ ; 29.VIII.1924, 1 ♂ (lacks genitalia) both labelled "on *Pineus strobi*" leg. H. Britten, in Verrall-Collin coll. HEC; NORFOLK, East Wretham (NNT reserve) 20.V.1978, 1 ♀ swept from *Pinus sylvestris* leg. I. F. G. McLean; 28.V.1978, swept from *Pinus sylvestris* 23 ♂ and 8 ♀ leg. I. F. G. McLean and 1 ♀ leg. Miss C. Brown; Holme Dunes (NNT reserve) 8.VII.1978, 1 ♀ swept from *Pinus nigra* var. *maritima* (Ait.) Melville leg. J. W. Ismay; SUFFOLK, Barton Mills 29.VIII.1939, 1 ♂ ; 25.VII.1941, 1 ♂ , both leg. J. E. Collin, in HEC; Wangford Warren (SNT reserve) 20.VIII.1977, 2 ♀ swept from *Pinus sylvestris* leg. I. F. G. McLean.

ABBREVIATIONS USED: HEC — Hope Entomological Collections, RSM — Royal Scottish Museum NNT — Norfolk Naturalists' Trust, SNT — Suffolk Naturalists' Trust.

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PIERIS RAPAE L. AND CARDARIA DRABA [CRUCIFERAE] AS A LARVAL FOODPLANT. — This plant, commonly known as Thanet Cress, a native of S. and C. Europe and Western Asia, was introduced into Britain in 1809, and is now a common plant of roadsides and waste land in N. Kent, especially near the Thames estuary, forming dense clumps with conspicuous masses of white flowers in May and June. On a number of occasions I have observed females of the vernal brood of *P. rapae* laying eggs upon this plant, as at Crayford on June 13th, 1981. In 1979 butterflies were reared from such eggs found at Greenhithe, the larvae being given only Thanet Cress.

On August 12th, 1981, on some waste land close to Dartford Heath, I watched two female *P. rapae* flying purposefully over the tall grasses and at intervals disappear amongst them. Investigation showed that they were seeking somewhat deteriorated plants of Thanet Cress, largely hidden from view, upon which to lay eggs.

It appears that *C. draba*, at least in N. W. Kent, is a significant larval foodplant for both broods of *P. rapae*, although I cannot find reference to *C. draba* as a pabulum for this insect in the textbooks and journals.

A further observation made at Crayford on June 13th, 1981, was that many male *P. brassicae* L. were present and appeared to settle frequently amongst the considerable masses of Thanet Cress. However, this was illusory, for close inspection revealed that they were seeking isolated plants, largely hidden, of common vetch, *Vicia sativa*, upon which to feed. — B. K. WEST, 36 Briar Road, Bexley, Kent.